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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/009,671	01/27/93	LOCKHART	P A1K/341-01
JOHN RUSSELL UREN RUSSELL & IYUMOLIN SUITE 1500, 1075 WEST GEORGIA STREET VANCOUVER, BRITISH COLUMBIA CANADA V6E 3Z2			EXAMINER <i>TANNER, H.</i>
			ART UNIT      PAPER NUMBER <i>3404      2</i>
DATE MAILED: 07/12/93			

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

This application has been examined       Responsive to communication filed on \_\_\_\_\_       This action is made final.

A shortened statutory period for response to this action is set to expire *Three* month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | <input checked="" type="checkbox"/> Notice re Patent Drawing, PTO-948.        |
| <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152. |
| <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | <input type="checkbox"/> _____  |

Part II SUMMARY OF ACTION

1.  Claims *1-9* are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2.  Claims \_\_\_\_\_ have been cancelled.
3.  Claims \_\_\_\_\_ are allowed.
4.  Claims *1-9* are rejected.
5.  Claims \_\_\_\_\_ are objected to.
6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.
7.  This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8.  Formal drawings are required in response to this Office action.
9.  The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are  acceptable.  not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10.  The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_ has (have) been  approved by the examiner.  disapproved by the examiner (see explanation).
11.  The proposed drawing correction, filed on \_\_\_\_\_, has been  approved.  disapproved (see explanation).
12.  Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has  been received  not been received  been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14.  Other

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The disclosure is objected to because of the following informalities: the equation given on page 8 is incorrect. For example, if P is taken to be  $P_1$ , then the equation should result in  $T_p = T_1$  rather than  $T_p = (T_1 - T_2)(P_1)/(P_1 - P_2)$ . Appropriate correction is required.

The drawings are objected to because Figure 1 should be labelled as prior art. Correction is required.

The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the refrigeration system including the pressure measuring system as recited in claim 9 must be shown or the feature cancelled from the claim. No new matter should be entered.

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to an adequate written description of the invention. The discussion of the prior art manifolds on pages 1 and 2 of the specification and the detailed description of the preferred embodiment would lead one of ordinary skill in

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the art to assume that the invention was a unit separate from a refrigeration system and could be connected to any refrigeration to be diagnosed by the same means as conventional manifolds. However claim 9 implies that the invention is a permanent part of a refrigeration system. The specification does not adequately describe how the transducers 50 are connected to the refrigeration system. It is assumed for purpose of examination that a pressure measuring system connected to a refrigeration system by conventional manifold connection means would read on the combination recited in claim 9.

Claims 1-9 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

Claim 9 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 claims a refrigeration system in which the only elements of the system recited are elements of a pressure measuring system.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

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skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 1, 2, 7, 8, 9/1, 9/2, 9/7 and 9/8 are rejected under 35 U.S.C. § 103 as being unpatentable over Kauffman et al in view of Winslow et al. Kauffman discloses the invention substantially as claimed. Hauffman discloses a pressure measuring system having pressure transducer 44, 46 connected to the high and low sides of the refrigeration system, analog-digital convertor 90 and display means 66 for displaying the updated pressure measurements at predetermined intervals. Kauffman does not mention the calculation of the boiling point temperature for the measured pressures. Winslow teaches the use of a calculator means having stored temperature-pressure relationships for a plurality of different refrigerants and refrigerant selection means for computing the boiling point temperature for a given

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pressure of a selected refrigerant. It would have been obvious to one of ordinary skill in the art to have modified the system of Kauffman such that it included means to select the type of refrigerant used in a system and calculate the boiling point temperature for the measured pressures in the system to allow the boiling point temperatures to be displayed in order to diagnose system problems in view of the teachings of Winslow.

Claims 3-5, 9/3, 9/4 and 9/5 are rejected under 35 U.S.C. § 103 as being unpatentable over Kauffman in view of Winslow as applied to claim 1 above, and further in view of Official Notice. Official Notice is taken that the use of plug-in memory chips are old in the computer art and the use of adjustable sampling rates are old in the measuring and testing art. Accordingly, it would have been obvious to one of ordinary skill in the art to have used plug-in memory chips for the refrigerant temperature-pressure data and to have provided a means for adjusting the pressure update intervals in order to allow the system to be used with a greater number of refrigerants and to allow service personnel greater control of system diagnostics.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References to Merritt, Saunders and Murray are cited as art of interest showing means for measuring and displaying system temperatures and pressures.



HARRY B. TANNER  
PRIMARY EXAMINER  
ART UNIT 344

H. TANNER:lm  
July 08, 1993  
703-308-2622